

REMARKS

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Claims 1, 6, and 8-45 remain in the application, with Claims 16-45 remaining withdrawn from further consideration. Claim 1 is amended to emphasize distinctions over cited art. Claims 8 and 9 are amended to overcome a rejection under 35 USC 112, as discussed below. Claims 13-15, which had previously been withdrawn, are returned to "original" status, but for Claim 15, which is amended to correct a typographical error that is apparent on its face.

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Applicants appreciate that the rejections under 35 USC 112 and under 35 USC 102(e) as being anticipated by Reed et al in the previous Office Action have been withdrawn.

Claims 8 and 9 are rejected under 35 USC 112, second paragraph, as being indefinite, since these claims depend from canceled Claim 7.

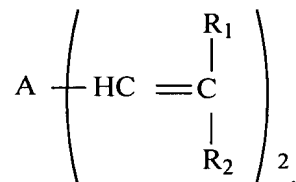
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Claims 8 and 9 are amended to depend from Claim 1, thereby obviating the rejection.

Claims 1, 6, 8, and 9 are rejected under 35 USC 102(b) as being anticipated by Van Allan et al (U.S. Patent 4,282,354) or Fay et al (U.S. Patent 5,998,580). In this connection, the Examiner in paragraph 6 of the Office Action states "FUJIMAKI et al", but since there is no reference cited by the Examiner to that inventive entity, Applicants assume the Examiner meant Fay et al.

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Van Allan et al disclose an electrophoretic migration imaging process, involving materials having the structure



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The materials are purportedly useful in electrophoretic migration imaging processes.

Applicants' Claim 1, as amended, recites

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1. (currently amended) A bistable molecule for a multiple electrode device, said multiple electrode device comprising at least one pair of electrodes that form at least one junction and at least one said bistable molecule connecting said pair of electrodes in said junction, said junction having a functional dimension in nanometers or micrometers, said bistable molecule including at least one photosensitive functional group, wherein said bistable molecule comprises a main chain and at least one pendant group and wherein at least one photosensitive functional group is attached either to said main chain or to said pen-

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dant group, said bistable molecule exhibiting bistability irrespective of the presence or absence of said at least one photosensitive group.

The Examiner reproduces Table 1 from Van Allan and argues that the compounds listed therein anticipate the recited scope for the claimed bistable molecule.

First, there is no evidence that the compounds listed in Table 1 are, per se, bistable, in accordance with Applicants' definition in paragraph 0031: "a molecule having two relatively low energy states", wherein the "molecule may be either irreversibly switched from one state to the other ... or reversibly switched from one state to the other ...". Rather, it appears that the bistability property of the Van Allan compounds, according to the Examiner, comes from altering their charge upon exposure to light. However, Applicants' claimed molecules do not derive their bistability from light. Instead, Applicants' molecules are bistable to begin with; a photosensitive group is added on to the molecule to aid in subsequent photopatterning, but Applicants' molecules are bistable with or without the presence of the photosensitive group. In addition, as is clear throughout the specification, the bistability of Applicants' molecules is due to an electric field placed on the two electrodes sandwiching the molecules (the connector species).

Applicants' bistable connector species is discussed in several paragraphs, such as paragraphs 0039 and 0048-0055. It is clear from these teachings that the connector species 16 is, indeed, bistable. As discussed on page 12, paragraphs 0059-ff, the bistable connector species is modified by introducing therein a photosensitive chain, resulting in connector species 16'. The bistability in the presence of an electric field is unaffected by the introduction of the photosensitive chain. On the other hand, the presence of the photosensitive chain renders the connector species sensitive to UV, electron beam, X-ray, and other irradiation processes (paragraph 0061). Claim 1 is amended to emphasize that the bistable molecule exhibits bistability irrespective of the presence or absence of the photosensitive group.

Van Allan utterly fails to disclose, or even remotely suggest, taking a molecule that is bistable to begin with and adding a photosensitive group to it to aid in photopatterning a layer comprising the so-modified bistable molecule.

Turning now to Fay et al, that reference discloses photosensitive caged macromolecules, e.g., a photosensitive peptide is prepared that is capable of being activated or deactivated in a biological system. An amino acid including a photolabile molecule is incorporated into a peptide during synthesis. Upon irradiation, the synthetic peptide is cleaved.

The Examiner argues that the compounds of Fay et al appear to be bistable. However, there is no disclosure or even remote suggestion in this reference that the compounds (peptides) without the photosensitive group evidence bistability. In any event, these compounds, like those of Van Allan et al, depend on light for their so-called bistability. The comments made above regarding the bistability of Applicants' claimed compounds obtain here as well.

Reconsideration of the rejection of Claims 1, 6, 8, and 9 as amended, under 35 USC 102(b) as being anticipated by either Van Allan et al or Fay et al is respectfully requested.


The Examiner indicates that Claims 10-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants appreciate that these claims are allowable. Applicants, however, urge that the limitations now recited in Claim 1 render this claim allowable over each of Van Allan et al and Fay et al.

The Examiner cites Hess et al (U.S. Patent 5,587,509) and Zhang et al (US-2002/0075557, US-2002/0176276), US-2002/0114557, US-2004/0066677, US-2004/0122233, and US-2004/0227605) as being pertinent. Applicants have reviewed these references and consider that they neither disclose nor suggest Applicants' claimed invention, whether taken alone, in any reasonable combination with each other, or in any reasonable combination with the references discussed above.

The application, as amended, is considered to be in condition for allowance. The Examiner is respectfully requested to take such action. If the Examiner has any questions, he is invited to contact the undersigned at the below-listed telephone number. HOWEVER, PLEASE CONTINUE TO ADDRESS ALL FURTHER WRITTEN CORRESPONDENCE TO: IP ADMINISTRATION, LEGAL DEPARTMENT, M/S 35, HEWLETT-PACKARD COMPANY, P.O. BOX 272400, FORT COLLINS, CO 80527-2400.

Respectfully submitted,

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David W. Collins
Reg. No. 26,857
Attorney for Applicants

75 West Calle de las Tiendas
Suite 125B
Green Valley, AZ 85614

Telephone calls may be made to:
(520) 399-3203